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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/650,181	08/27/2003	Masayuki Ohta	259052003300	6464

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EXAMINER
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VAN ROY, TOD THOMAS

ART UNIT	PAPER NUMBER
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2828

DATE MAILED: 01/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/650,181	Applicant(s) OHTA ET AL.	
	Examiner Tod T. Van Roy	Art Unit 2828	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 07 December 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,5 and 10-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1 and 11-13 is/are allowed.
- 6) ☒ Claim(s) 5,10,14 and 15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Response to Amendment***

The examiner acknowledges the cancellation of claims 2-4, 6-9, and the amending of claims 1, 5, 10, as well as the addition of claims 11-15.

### ***Claim Objections***

Claims 1, 10, 11, and 14-15 are objected to because of the following informalities:

The fourth line from the bottom of claim 1 should read "L/n and" not "L/nand" as well as "greater" not "reater".

Claim 10, as written, places a limitation on the actual laser device length to width ratio, not the marker length to width ratio as is mentioned on pg.11 of the specification and believed to be correct, and has been examined as such.

The last line of claim 11 should read "cut" not "cute".

Claims 14-15 refer to a "method" claim 5, while claim 5 is a "device" claim.

Appropriate correction is required.

### ***Response to Arguments***

Applicant's arguments filed 12/07/05 have been fully considered but they are not persuasive.

With respect to claim 5, the limitation "...wherein the markers can be used to form laser chips of different resonator lengths.", can be considered a product by process limitation. The method of forming a device is not germane to the patentability of the device itself, therefore this limitation is not given patentable weight. At best this claim

Art Unit: 2828

could be characterized as a product-by-process claim, where the process limitation is not limiting, only the structure implied by the process. See MPEP 2113. Here, the structure implied by the process step is merely the structure taught in the Goto reference. The product of the instant invention is that disclosed by Goto, however the process of obtaining the product is not.

The heart of the applicant's invention is thought to be the method of obtaining varying resonator lengths by using a series of continuous markers, rather than creating a new device structure.

Please see below for an updated rejection to claim 5.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 5 is rejected under 35 U.S.C. 102(e) as being anticipated by Goto (US 6850547).

With respect to claim 5, Goto discloses a semiconductor laser device, comprising: a semiconductor layer portion including at least a light emission layer (fig.5

Art Unit: 2828

#13) and a pair of cleavage surfaces the surfaces being parallel and distant from each other by a resonator length (fig.5 facets A, B); and an electrode pattern piece formed on an upper surface of the semiconductor layer portion (fig.5 #6), the electrode pattern piece having opposed two first edges extending in a first direction (fig.5 left and right sides of the electrode) and opposed two second edges extending in a second direction along the pair of cleavage surfaces (fig.5 near facets A and B), wherein the two second edges come in contact with the pair of cleavage surfaces (fig.5 #6 in contact with facets A and B), each electrode pattern piece including a series of markers having a periodical pattern formed at one or both of the first edges (two markers, elongated sides of t shaped bar, on either side of center stripe seen in shaded area in fig.6b), a minimum unit of the periodical pattern having an overall length in the resonator length direction equal to  $L/n$  and not greater than a resonator length, wherein  $L$  is the resonator length and  $n$  is a positive number not smaller than 1 (markers not greater than resonator length), the first direction being a direction along the resonator length, *wherein the markers can be used to form laser chips of different resonator lengths (see Response to Arguments above).*

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2828

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 10, and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goto in view of Ohbuchi (US 6611542).

With respect to claim 10, Goto teaches the semiconductor laser device as outlined in the rejection to claim 5, but does not teach the marker length to width ratio is between 1:5 to 5:1. Ohbuchi teaches a semiconductor laser device with electrode markers wherein it is taught that marker side dimensions should be 20um or greater (fig.4 E, col.8 lines 12-14). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the t pattern of Goto with the 20um sides dimensions of Ohbuchi in order to allow for ease of viewing during alignment procedures (Ohbuchi, col.8 lines 12-14, col.3 lines 39-45). (20um side dimensions applied to each exposed section of Goto's t-pattern would lead to a 60 micron chip-width by a 40 um resonator length direction, giving a marker length to width ratio of 2:3, which falls in the 1:5 to 5:1 range)

Art Unit: 2828

With respect to claims 14-15, Goto teaches the semiconductor laser device as outlined in the rejection to claim 5, but does not teach the markers to be shaped like the teeth of a saw or an isosceles triangle. Ohbuchi teaches a semiconductor laser device with electrode markers wherein it is taught that markers are of an isosceles triangle, or saw tooth, shape (fig.1). It would have been obvious to one of ordinary skill in the art at the time of the invention to replace the rectangular markers of Goto with the isosceles, saw tooth, markers of Ohbuchi as a matter of engineering design choice, since the shape of the marker is not crucial, only that it has distinguishable dimensions (Ohbuchi, col.8 lines 12-14, col.3 lines 39-45).

***Allowable Subject Matter***

Claims 1, and 11-13 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Claim 1 is believed to be allowable based on the fact that a method for manufacturing a semiconductor laser device comprising the steps of forming a continuous electrode (allowing for cleavage of the wafer at any point for the selection of any resonator length), with markers in a periodical fashion formed at an edge of the electrode pattern, wherein the markers are used to select devices of varying resonator lengths, was not found to be taught in the prior art.

Claims 11-13 are allowable as they depend from allowable claim 1.

Art Unit: 2828

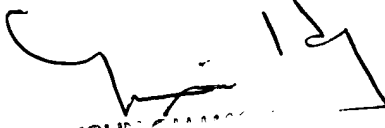
***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tod T. Van Roy whose telephone number is (571)272-8447. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minsun Harvey can be reached on (571)272-1835. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TVR

  
MIN SUN HARVEY  
PRINCIPAL EXAMINER